

# Presence of Larger Trees Around Cropping Field's Boundaries, Decrease The Productivity Of Various Crops

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**Abstract-** *In the present time, most of the peoples of the western part of Uttar Pradesh, planted different kinds of larger trees viz., Populus alva, Eukalyptis etc. around their cropping field's boundaries. These plants are generally perennial in nature, therefore, their presence continuously affects the yield of various crops. Therefore, main purpose of the study was-Are boundary plants decrease the crop yield ? if yes ! than how much ! was investigated. The present experiment was conducted in the cropping field of Mr.K.R.Verma (a farmer of Village-Kajarbojhi), during a period of three years from 15th Feburary,2015 to 25th October, 2018. In the present findings, it was reported and recorded that all the three crops i.e. sugarcane, wheat and rice were greatly affected with the presence of larger trees around field's boundaries because most of the contents of the organic manure and fertilizers applied into the fields, absorbed by such plants during several years. The maximum production of such crops was calculated and recorded in those experimental plots who were completely free from the larger trees around their boundaries and the minimum in the experimental plots having larger trees around their boundaries. These studies suggested that for the better production of crop yield, plantation of larger trees around cropping field's boundaries should be completely stopped, because human population day by day increasing on the one hand and agricultural land area is limited on the other hand.*

**Keywords-** Pilibhit district, production, rice, Sugarcane and wheat.

## I. INTRODUCTION

In the Uttar Pradesh state of India, the farmers are growing mainly three kinds of crops *i.e.* sugarcane, wheat and rice in their cropping fields. They also planted various types of larger trees like *Populus alva*, *Eukalyptis etc.* around the field's boundaries, simultaneously. Although, they are fully aware that boundary plants will reduce the crop yield, thereby they still grow continuously such plants. In this regard, they think that there is no more care required for such plants in

several years and often they will get a large income sudden for their basic requirements, and therefore, they are not give up this traditional habit till now. Keeping this in mind, in the present studies, an attempt was made especially for checking out that the presence of larger trees around cropping field's boundries, decreasing, the productivity of sugarcane, wheat and rice crops.

## II. MATERIALS AND METHODS

The experiment was carried out at Village-Kajarbojhi,Barkhera,District-Pilibhit (U.P.),India, in the growing cropping fields of Mr.K.R.Verma (a farmer of Village-Kajarbojhi), during a period of three years from 15<sup>th</sup> Feburary,2015 to 25<sup>th</sup> October, 2018.Village-Kajarbojhi is located 22 km towards south form district head quarters Pilibhit. 8 km from Barkhera city and about 246 km from the state capital Lucknow. The whole experimental plot of an area of 9680 yards<sup>2</sup> was sub-divided into twelve small plots (size 806.6 yard<sup>2</sup> each). During the time of experiment starting year on 15<sup>th</sup> Feburary, 2015, sugarcane seeds (Var.CO 0238) were sowed and 100 kg of NPK (a market fertilizer) was equally dusted over all the experimental plots. Further in the month of July,2015, 100 kg urea was applied as with that of NPK fertilizer and 2 liters of a 2-4 D, was also sprayed ,simultaneously, for the eradication of creeping weeds over the crop. The sugarcane crop get matured within 10-12 months. Although, in the present experiment, the crop was harvested on 15<sup>th</sup> February 2016 and 2017, respectively, and the total yield of crop was calculated. A very quickly, the next crop *i.e.* wheat (Var. 2967) was sowed in the same experimental plots on 25<sup>th</sup> November 2017.During the time of seed sowing, 100 kg NPK fertilizers was added and late January, 2017, 100 kg of urea and 2-litre Metribuzin 70 % wp plus Piroxofop Propanyl 15 % wp, weedicides were sprayed in the experimental plots, avoiding various kind of weeds grown in the crop. This crop was harvested on 5<sup>th</sup> May,2018 and production was calculated. After harvesting of wheat crop, rice crop (Var. HR 47) was planted in the same experimental plots on 20<sup>th</sup> June, 2018.During the time of plantation of rice

plants in the plots , 2-liter of Butachlore EC 55 % and 100 kg NPK was again applied similar as that of wheat and sugarcane crop and early month of July, 2018 100 kg of urea fertilizer was applied into the experimental plots. Rice crop was harvested on 25<sup>th</sup> October, 2018 and production was calculated.

**Table-1: Showing experimental designing for sugarcane, wheat and rice crop production in different experimental plots.**

Different experimental plot series		
A <sub>1</sub>	B <sub>1</sub>	C <sub>1</sub>
A <sub>2</sub>	B <sub>2</sub>	C <sub>2</sub>
A <sub>3</sub>	B <sub>3</sub>	C <sub>3</sub>
A <sub>4</sub>	B <sub>4</sub>	C <sub>4</sub>

Total area of each experimental plot, separately = 806.6 Yards<sup>2</sup>

### III. RESULTS AND DISCUSSION

Various kinds of larger trees around the boundaries of cropping fields, reduce the production of different crops as reported in the present experiment. The maximum production (126.23 Q) of sugarcane was reported in the experimental plot series-B in the session 2015-2016. It was 1.80 times and 1.74 times, the maximum from experimental plot series-A and C, respectively, than that of experimental plot series-B (Table-2). In the next session *i.e.* 2016-2017, higher sugarcane production (145.18 Q) was also recorded in the plot series-B. It was 1.93 times and 1.90 times lower in the experimental series-A and C, respectively, than experimental plot series-B. A total 268.80 Q and 296.36 Q sugarcane production was calculated in the session 2015-16 and 2016-17, respectively. Sugarcane is known as heavy feeder crop that depletes the soil of essential nutrients and therefore, adequate nutrient addition is important (Korndorfer,1990). Balanced application of nutrients (NPK) is the key factor to influence sugarcane production in Pakistan (Ahmed,1994). For high yield and good juice quality, K fertilizers are required in amounts equal to or greater than N and P. In most sugarcane producing countries of the world, NPK ratios of 2:1:3 or 2:1:2 or 3:1:5, are commonly used (Wood, 1990).

**Table-2: Showing sugarcane production in different experimental plots.**

Experimental plot series	Production in Q (Session:2015-16)	Production in Q (Session:2016-17)
A	70.10 ± 0.72	74.92 ± 1.07
B	126.23 ± 1.37	145.18 ± 1.05
C	72.47 ± 1.71	76.26 ± 0.98
Total production »	268.80 ± 2.78	296.36 ± 0.92

**Table-3: Showing production of wheat and rice crops in different experimental plots.**

Experimental plot series	Production of wheat (in kg)	Production of rice (in kg)
A	463.13 ± 0.95	617.39 ± 1.09
B	897.47 ± 1.03	994.17 ± 2.01
C	479.86 ± 1.86	636.81 ± 0.99
Total production »	1840.46 ± 1.59	2248.37 ± 1.02

The maximum wheat production (897.47 kg) was recorded in the experimental plot series-B than that of other two series of experimental plots. It was 1.93 times and 1.87 times, respectively, lower in the experimental plot series A and C. Youssef *et al.* (2013), recommended that the best treatment was NPK at the levels 192, 53 and 120 kg unit ha<sup>-1</sup>, respectively. Which gave the highest production for wheat yield which indicate the importance of balance fertilization for the soil and wheat crop. The higher rice production (994.17 kg) was also observed in the experimental plot series-B than that of other two series. It was 1.61 times and 1.56 times, respectively, lower in the plot series A and C. Sharma and Gupta (1998), Maqsood *et al.* (2001), and Asghar *et al.* (2010), concluded that grains yield of maize and cereal crops increased with the application of NPK fertilizers.

### IV. CONCLUSION

Thus, in conclusion, it is clear from table-2 and 3, that overall crop production was reported higher in the experimental plot series-B, than that of series A and C. It might be due to because two experimental plots of series-B, were completely free from presence of larger trees and therefore, present findings suggested and advocated that for better production of crop yield, cropping field's boundaries should always free from larger and perennial trees.

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## REFRECNCES

- [1] A.Ahmed, Sucrose-lined prieses of cane to raise sugar export prospects,Agriculture and Industry. DAWN, *Economic and Business Review*.1994; 9-15.III.
- [2] Asghar, A. Ali, W.Syed, M. Asif, T. Khaliq, and A.A. Abid, Growth and yield of maize cultivars affected by NPK application in different proportion..*Pakistan Journal of Sciences* .2010;**62**(4):211-216.
- [3] G.H. Korndorfer, Potassium and sugarcane quality.*Informacoes Agrono*.1990;**49**:1-13.
- [4] M., Maqsood, A.M.Abid, A. Iqbal, and M.H. Hussain, Effect of variable rate of nitrogen and phosphorus on growth and yield of maize (golden).*Journal of Biological Sciences*. 2001;**1**:19-20.
- [5] M.P. Sharma, and J.P. Gupta, Effect of organic materials on grain yield and soil properties in maize-wheat cropping systems.*Indian Journal of Agriculture Sciences*. 1998;**68**:715-717.
- [6] R.A. Wood, The roles of nitrogen, phosphorus and potassium in the production of sugarcane in South Africa.*Fertilizer Res*. 1990;**26**:87-98.
- [7] S.M. Youssef, S.E.D. Faizy, S.A. Mashali, El- H.R Ramady, and Sh. Ragab, Effect of different levels of NPK on wheat crop in North Delta. *Jahrestagung der Deutschen Bodenkundlichen Gesellschaft Vom 07.bis 12.September 2013* in Rostock; Vortrage Kommission IV, Berchte der DBG (nicht begutachtete onling-Publication). [www.dbges.de](http://www.dbges.de).